REMARKS

This responds to the Office Action mailed on April 29, 2008. Reconsideration is respectfully requested.

Claims 1, 2, 14, 18 and 20 are amended, no claims are canceled, and no claims are added; as a result, claims 1 – 21 remain pending in this application.

Objection to the Specification and §112 Rejection of the Claims

The Specification was objected to under 35 U.S.C. 132(a) as introducing new matter not supported by the original disclosure as follows "wherein the parameters include one or more compression thresholds derived based on a fractional measure of a number of frames of the audio tack at one or more predetermined levels".

Claim 1 was rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. According to the Examiner, the specification does not clearly disclose how procession of "a fractional measure of a number of frames of the audio track at one or more predetermined levels" will be performed. Claims 14, 18 and 20 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement, for reasons similar to those of claim 1.

Applicant submits that support for the language previously added to claim 1 "wherein the parameters include one or more compression thresholds derived based on a fractional measure of a number of frames of the audio track at one or more predetermined levels" is supported by Applicant's specification and does not constitute new matter. Applicant further submits that that the specification also clearly discloses how "the number of frames of the audio track at one or more predetermined levels" is determined.

Paragraphs [0057] through [0064] of Applicant's specification describe and FIGs. 5 – 7 illustrate the application of multi-line compressor transfer functions and include examples of how the compressor thresholds may be determined. Paragraph [0061] discusses the statistical distribution of frames in an audio track at different level (see paragraph [0061] last sentence), and specifically states that a dynamics profile such that a percentage (P%) of frames that are softer or equal to a predetermined level (V) may be used in the selection of compression thresholds (see paragraph [0061]). The application of these compressor thresholds based on these

statistical concepts is further described in paragraphs [0062] and [0063]. Referring to the prior description, the last sentence of paragraph [0063] states that a benefit of multi-line compressor transfer functions in which the compression thresholds are based on a fractional measure of a number of frames is that statistical independence from track-to-track variations in scaling and dynamics is achieved. Applicant submits that the number of frames in an audio track at one or more predetermined levels can be readily determined from the statistical distribution of frames.

These paragraphs of Applicant's specification, along with FIGs 5 – 7, when taken together, are believed to provide support for the language that was previously added to claims 1, 14, 18 and 20 in the amendment filed 2-4-08. Claims 1, 14, 18 and 20 have been amended to clarify that the multi-line transfer function has the one or more compression thresholds.

In view of the above, Applicant submits that the objection to the amendment filed Applicant 2-4-08 under 35 U.S.C. 132(a) as introducing new matter has been overcome. Applicant further submits that the rejection of claims 1, 14, 18 and 20 under 35 U.S.C. S 112 has been overcome.

§103 Rejection of the Claims

Claims 1-3 and 14-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Saunders (U.S. 6,351,733) in view of Smyth et al. (U.S. 5,956,674).

Applicant's claim 1 is directed to adjusting the dynamics of an audio track. As recited in claim 1, at least two parameters of a transfer function are derived from a statistical distribution of levels encountered in the audio track, a time-varying gain is derived from the transfer function to modify the statistical distribution of levels of the audio track, and the time-varying gain is applied to the audio track to obtain a resulting audio track. As further recited in claim 1, the transfer function is a multi-line compression transfer function having one or more compression thresholds. As further recited in claim 1, the parameters of the transfer function include the one or more compression thresholds that are derived from a fractional measure of a number of frames of the audio track at one or more predetermined levels.

Saunders has been cited for disclosing adjusting the dynamics of an audio track including deriving from a transfer function, a time-varying gain to modify the statistical distribution of levels of the audio track, and applying the time-varying gain to the audio track to obtain a

resulting audio track. Applicant respectfully disagrees with this interpretation of Saunders, as discussed below.

Smyth has been cited for disclosing the use of one or more compression thresholds that are derived based on a fractional measure of a number of frames of the audio track at one or more predetermined levels. Although Smyth's multi-channel audio coder changes the dynamics of audio, Smyth, however, does not teach or disclose a multi-line compression transfer function having one or more compression thresholds. Furthermore, Smyth does not teach or disclose that the one or more compression thresholds ***are derived from*** a fractional measure of a number of frames of the audio track at one or more predetermined levels.

Smyth discloses a multi-channel audio coder that accommodates a wide range of compression levels (see Smyth column 3 lines 13 - 19). In Smyth, the compression level (the amount of compression) is dependent on the ***number*** of audio channels. As the number of audio channels is increased, the amount of compression is increased to ***maintain*** a desired transmission rate (see Smyth column 10 lines 1 - 33). Rather than using different compression levels based on a number frames at one or more predetermined levels, Smyth is concerned with varying the audio window size and sets the audio window size based on, among other things, the compression level (see Smyth column 3 line 66 through column 4 line 9, and column 9 lines 23 – 39).

Smyth also discloses how the degree of compression can be altered (i.e., by the adjustment of the decoder's coefficient values) (see Smyth column 50 lines 47 - 51). However, in Smyth, the compression level is still *determined* based on the number of audio channels (see Smyth paragraphs column 50 lines 43 - 47). Furthermore, the compression levels disclosed by Smyth may depend on the dynamic range (the difference high and low levels) at the output of the decoder (see Smyth column 50 lines 23 – 33), not the number of frames of an audio track that are above or below certain levels.

Discussion of Saunders

Saunders has been cited for disclosing adjusting the dynamics of an audio track including deriving from a transfer function, a time-varying gain to modify the statistical distribution of levels of the audio track, and applying the time-varying gain to the audio track to obtain a

resulting audio track. According to the Examiner, Saunders derives a transfer function (the VRA function), however Saunders uses parameters (PCPV and SCRA). The PCPV and SCRA refer respectfully to primary and secondary channels (e.g., primary and secondary audio programs) that are on a dual audio track (see Saunders column 5, lines 31 – 46, and column 18, lines 1 – 4). The VRA refers to voice-to-remaining audio and is unrelated to a statistical distribution of levels because the VRA relies on the separation of audio from voice. In Saunders, metadata is used to further enhance the playback features of these channels (see Saunders column 18 lines 1 – 24, and column 23 lines 48 – 67). For example, Saunders suggests that level information may be included with each of these channels and that this data can be utilized at playback so that the SCRA signal does not obscure the PCPV (see Saunders column 18, lines 4 – 13). Since Saunders uses metadata, there is no reason in Saunders to determine a statistical distribution of levels since this information is included in the metadata.

In view of the above, Applicant submits that the combination of Saunders and Smyth does not result in Applicant's method recited claim 1 and that the rejection of claim 1 under 35 U.S.C. § 103(a). Claim 1 is therefore believed to be allowable. Applicant's other independent claims 14, 18 and 20 have similar recitations and are therefore also believed to be allowable. Dependent claims 2 – 13, 15 – 17, 19 and 21 are believed to be allowable at least because of their dependency on claim 1, 14, 18 or 20.

Claims 4-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Saunders (U.S. 6,351,733) as modified by Smyth et al. (U.S. 5,956,674) as applied to claims 1-4 above, and further in view of Nakano (5,404,315). As discussed above, Applicant submits that the combination of Smyth and Saunders fails to result in Applicant's claim 1, and therefore the combination of Smyth and Saunders with Nakano does not result in Applicant's claims 4 – 13.

Nakano has been cited by the Examiner (in regard to claim 4) for disclosing the use of histogram data of levels encountered in an audio track, and deriving a parameter for a transfer function from a comparison between the original and a desired dynamic spread value. In Nakano, the histogram is a frequency distribution of amplitudes which is used to control gain without being affected by silent portions of the sound signals (see Nakano column 17 lines 45 – 46 and column 18 lines 3 – 6). Nakano's purpose is to provide gain control with being affected by the

silent portions of the track (see Nakano column 8 lines 3 – 6). Nakano's histogram is a frequency distribution of amplitudes during a prescribed period to determine an average level. Applicant's claim 4, however, recites that the derivation of dynamic spread values, which are not taught, suggested or motivated by Nakano (see Nakano column 7 lines 52 – 60) and cannot be derived by Nakano's Histograms.

In view of the above, Applicant submits that the combination of Smyth and Saunders with Nakano does not result in Applicant's claims 4 – 13 and that the rejection of claims 4 – 13 under 35 U.S.C. § 103(a) has been overcome.

CONCLUSION

Applicants respectfully submit that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney at (480) 659-3314 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date July 25, 2008

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 25 day of July 2008.

Dawn R. Shaw — /Dawn R. Shaw/

Name — Signature